

FIG.1A

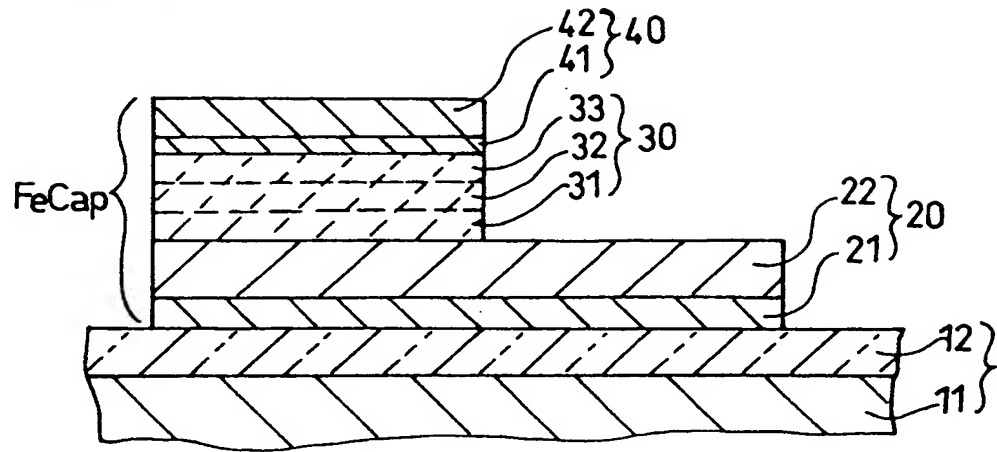


FIG.1B

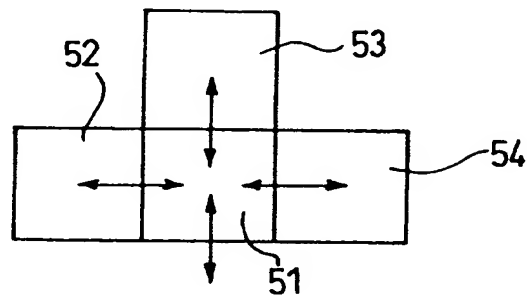


FIG.1C

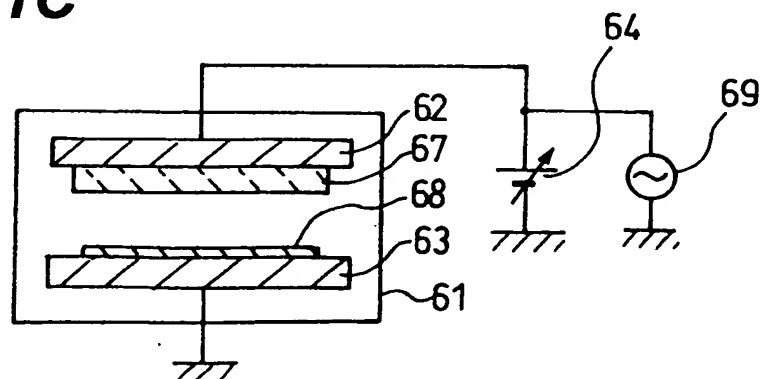


FIG.2A

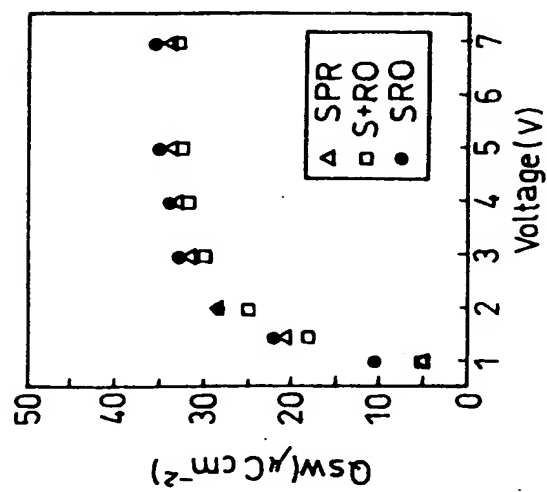


FIG.2B

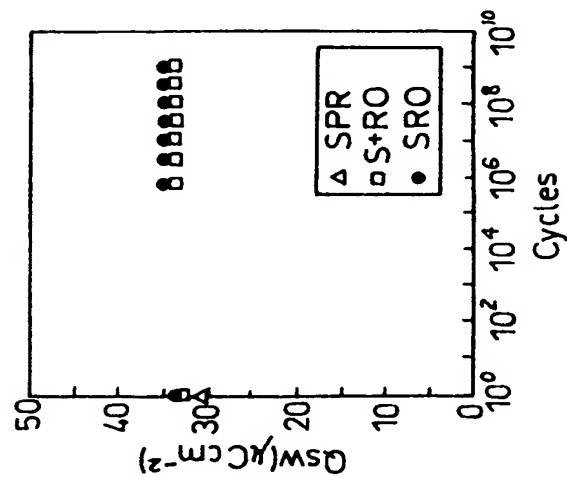


FIG.2C

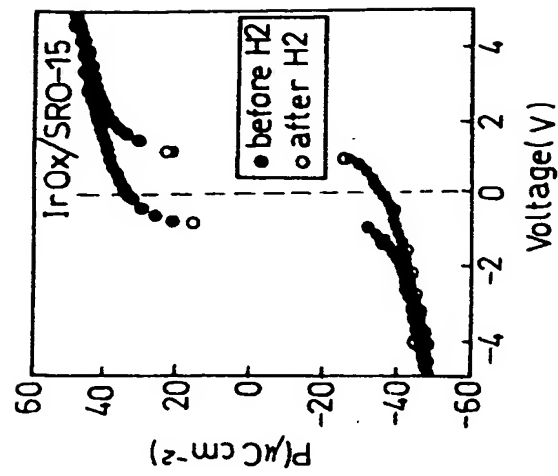


FIG.3

50 x 50 μm TEL											
SRO			IrOx								
Film	Temp	Gas	Temp	V90(10)	Qsw(3V)	Leak(5V)	Fat(5V)	Q2.rate	Q3.rate	Q2(20)	Q3(20)
(nm)	(°C)		(°C)	(V)	(μCcm^{-2})	(logAcm ⁻²)	(%)	(%)	(%)	(3V)	(3V)
N/A	--	--	300	2.9	28	-3.0	-1	-12	-8.9	9	14
SPR	2.5	Ar	300	3.1	27	-2.3	-5	-10	-8.2	9	15
SPR	300	Ar/O ₂	300	2.9	29	-3.7	-2	-5.5	-5.9	12	16
SPR	300	Ar	300	2.9	30	-3.4	-4	-3.8	-6.9	11	16
S+RO	25	Ar	300	2.8	30	-3	-5	-8.9	-5.8	11	16
S+RO	25	Ar/O ₂	300	2.7	29	-3.2	-3	-12	-7.6	9	16
SRO	25	Ar	300	3.0	31	-4.5	-3	-1	-6.3	13	18
SRO	300	Ar/O ₂	300	2.9	31	-2.5	-4	2.3	-4.5	15	20

FIG.4A

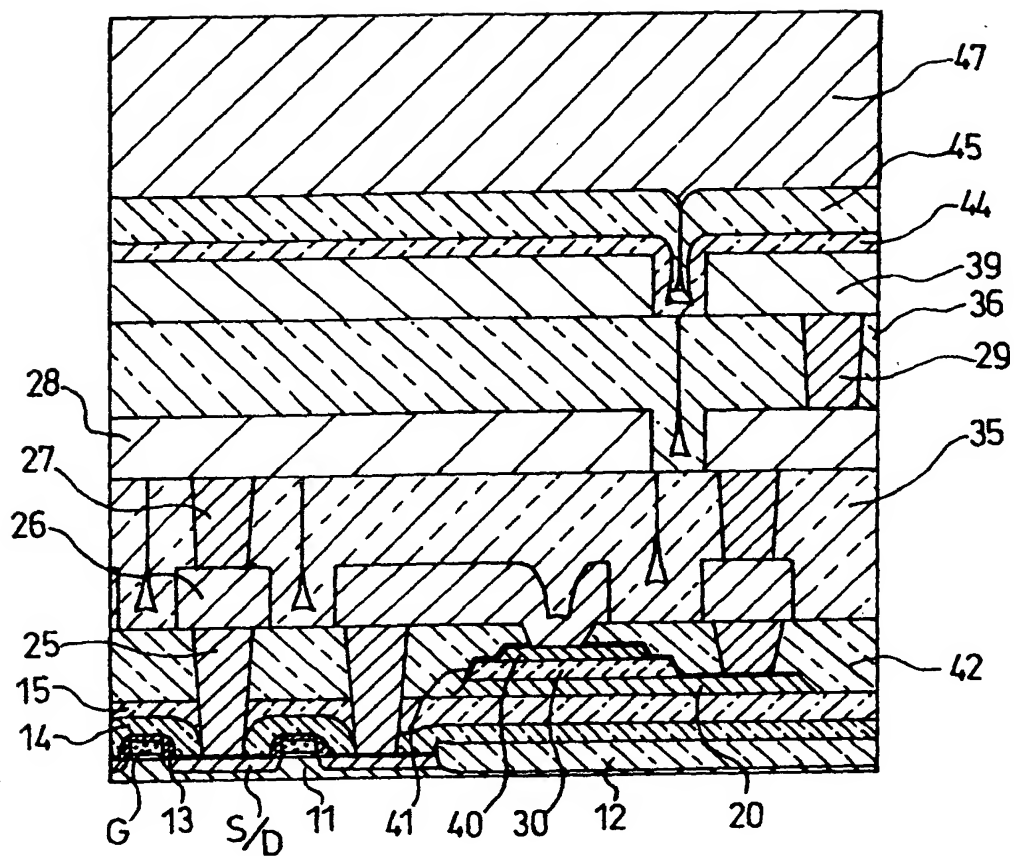


FIG.4B

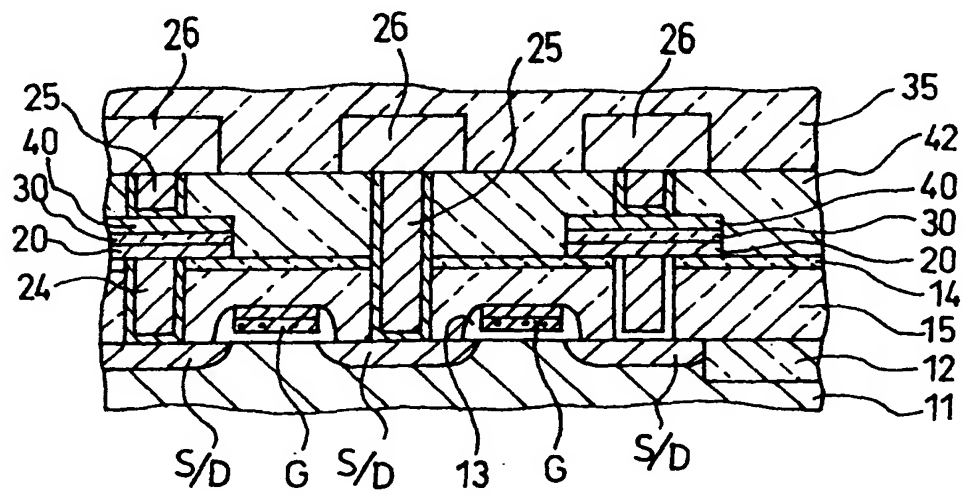


FIG.5A

SRO TARGET	ABBREVIATION	DENSITY
SrRuO ₃ (KJC)	SRO	65%
Sr _{1.1} RuO _x (KJC)	S+RO	65%
Sr _{0.95} Pb _{0.1} RuO _x (VMC)	SPR	80%

FIG.5B

SRO TARGET	SPUTTER GAS	TARGET POWER (W)	AVERAGE FILM CHARACTERISTICS				
			Sr (at%)	Ru (at%)	Sr/Ru (Ratio)	DEPOSITION RATE (nm/s)	DENSITY (g/cm ³)
SrRuOx	Ar	350	50.3	49.7	1.01	0.32	5.9
Sr _{1.1} RuOx	Ar	700	53.2	47.8	1.14	0.63	5.8
Sr _{1.1} RuOx	Ar	350	52.6	47.4	1.11	0.30	5.8
Sr _{1.1} RuOx	Ar/O ₂	1400	51.8	48.2	1.08	0.64	5.1
Sr _{1.1} RuOx	Ar/O ₂	700	51.5	48.5	1.06	0.28	5.2

FIG.5C

SPR SPUTTERING CONDITIONS (POWER, GAS, TEMPERATURE)	DEPOSITION RATE (nm/s)	Sr (%)	Pb (%)	Ru (%)	Sr/Ru
350W Ar RT	0.35	47	2.0	50	0.95
700W Ar RT	0.66	48	1.5	51	0.94
700W Ar/O ₂ RT	0.23	47	2.5	50	0.93
1400W Ar/O ₂ RT	0.58	48	2.2	50	0.98
350W Ar 300°C	0.37	50	1.3	50	1.00
700W Ar 300°C	0.78	51	1.1	49	1.04
700W Ar/O ₂ 300°C	0.29	52	1.5	47	1.09
1400W Ar/O ₂ 300°C	0.64	51	1.4	49	1.04